

## in this issue

Letter from the  
Department Head p.2

Honors Program p.3

Faculty/Staff  
Updates p.4-5

New Course and  
Program  
Development p.6

Scientific Discovery p. 7

SCSE Academy of  
Science  
& Engineering p. 8

Departmental  
Review p. 8

Alumni Spotlight: p.9-10  
Minh C. Nguyen

Summer p.11  
Undergraduate  
Research Program

Graduating Seniors p.12

Masters Program p.13  
Graduates

Student Awards p.14-15

The Department congratulates two senior faculty members on receiving highly prestigious national awards that recognize their professional

contributions and leadership. Professors Viktor Zhdankin and Vince Magnuson have built distinguished careers at UMD and continue to add strength to the department and the campus. As graduates of this department, many of you remember taking organic chemistry from Viktor or general chemistry from Vince.

## Two Faculty Members Receive National Awards



### ACS Award for Creative Research and Applications of Iodine Chemistry



2011 recipient Viktor V. Zhdankin (center) is presented his award by sponsor representative Daniel Pizarro (right), and President Nancy B. Jackson (left).

In recognition of his outstanding contributions to the organic chemistry of iodine and other hypervalent main group elements, Viktor Zhdankin received the 2011 American Chemical Society (ACS) Award for Creative Research and Applications of Iodine Chemistry. The purpose of this award, which is given every two years, is "to support, promote, and motivate global research of iodine chemistry and develop its use and knowledge through applications."

Viktor's research has led directly to the development of several important reagents that are currently used in chemical and pharmaceutical laboratories all over the world. He has published 220 journal articles and several books, and successfully competed for numerous research grants from the National Science Foundation, National Institutes of Health, Research Corporation, Petroleum Research Fund, Camille and Henry Dreyfus foundation, and other agencies. Read more at the ACS website: <http://cen.acs.org/articles/89/i5/ACS-Award-Creative-Research-Applications.html>

Since Viktor joined the department in 1993, he has mentored over 81 undergraduate and graduate students in his research laboratory in addition to teaching over 2500 organic chemistry students. UMD and SCSE have recognized Viktor's extraordinary research and teaching contributions to the campus with the 2009 Sabra S. and Dennis L. Anderson Scholar/Teacher Award, 2006 Jean G. Blehart Distinguished Teaching Award, and 2004 Chancellor's Award for Distinguished Research.

(continued on page 3)

## Dear Friends and Graduates of UMD Chemistry and Biochemistry,

I hope this issue of Transitions finds you well. I am honored to have the opportunity to write to you and bring you up-to-date on what's going on in the department.

As usual, it has been a busy year for the department. Our programs continue to be very popular with students, and enrollments have increased substantially reaching 161 B.S. Chemistry and 249 Biochemistry/Molecular Biology majors in September 2011. In May, we congratulated a record number of graduates. Fifty-four students received their Bachelor of Science degrees in Chemistry or Biochemistry & Molecular Biology. In addition, 15 students completed their Master of Science degrees. The lists of B.S. and M.S. graduates from Spring 2011 are found on p. 12-13. We are very pleased to introduce you to alum Minh Chau Nguyen (B.S. Chemistry 1999, M.S. Chemistry 2000). Minh, a forensic chemist at the U.S. Drug Enforcement Agency, shares his very interesting and accomplished story on p. 9-10.

In addition to developing new courses and meeting course needs due to high student enrollments, our faculty members continue to be very active as research scientists, succeeding in bringing a large amount of grant funding to the department. They have also increased the visibility of our research program by participating in national and international conferences and by fostering relationships with scientists around the world through collaboration and exchanges with other universities. We have been privileged to host visiting faculty and researchers from Japan, China, Ukraine, Russia, Poland, and Chile (see International Activities on p. 7). In addition, the strength of the faculty in the research and teaching arenas has enabled us to recruit, attract, and support an increasing number of very talented graduate students.

Our leadership in undergraduate research (see Undergraduate Research p. 11) is reflected in faculty success in attracting significant research funding for our undergraduate majors, a strong Summer Undergraduate Research Program (SURP), participation in the university-wide Undergraduate Research Opportunity Program (UROP), and numerous publications with undergraduate co-authors. As a centerpiece program in the Department, undergraduate research is based on an excellent and research-active faculty, a strong commitment to educating the next generation of chemists, biochemists, pharmacists, physicians and other professionals, and our dedication to maintain a large inventory of state-of-the-art instruments.

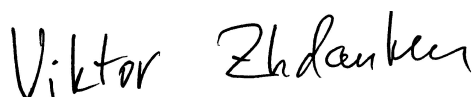
Our faculty members have received several awards over the last few years. This year, Professor Vince Magnuson, former UMD Vice Chancellor for Academic Administration, was awarded the prestigious 2011 William Plater Award for Leadership in Civic Engagement from the American Association of State Colleges and Universities (AASCU) (see p. 1, 3). I was honored by the American Chemical Society for my scientific achievements in iodine chemistry (p. 1, 3).

As part of UMD's Academic Program Review process, our department was reviewed by a team of external reviewers during Fall 2011 (see p. 8). The team members were impressed by all facets of our program particularly in the context of significant resource challenges.

As you know, the university has faced and continues to face severe budget shortfalls. This has, of course, also affected our department. Without the generous support of friends and alumni we would not be able to continue to provide our students with the educational opportunities for which we have become well known. Your donations have increased significantly over the past few years, allowing us to give out more scholarships and awards to deserving students each year (see Awards and Scholarships on p. 14-15). In addition, we have used your gifts to purchase modern equipment and instrumentation, computers, and to improve the curriculum.

We will continue to work hard at what we do best – educating our students, discovering new knowledge, and providing leadership to the campus and beyond. We fondly remember all of our graduates and are proud to hear about your achievements and successes. Your visits are always welcome and we look forward to reminiscing with you and showing you what new things are happening in the department and at UMD. Please stay in touch.

Best wishes,



Viktor Zhdankin  
Professor and Head  
(218) 726-6902





## Two Faculty Members Receive National Awards *(continued from page 1)*

### AASCU William Plater Award for Leadership in Civic Engagement.

Former UMD Vice Chancellor for Academic Administration, Vince Magnuson was awarded the 2011 William Plater Award for Leadership in Civic Engagement from the American Association of State Colleges and Universities (AASCU). The Plater Award recognizes the leadership and critical role Vince demonstrated during his tenure as UMD's chief academic officer to advance the civic mission of the campus through curricular reform, faculty development, accountability for institutional citizenship, and developing partnerships with community organizations. Through his efforts, the campus is involved in the American Democracy Project which led to the establishment of the UMD Office of Civic Engagement. Dr. George Mehaffy, AASCU Vice President for Academic Leadership and Change announced this award at the 2011 AASCU Annual Conference and also presented it to Vince at a campus forum in February 2012. Read more at <http://www.d.umn.edu/unirel/homepage/11/magnuson.html>



William Plater Award recipient Vince Magnuson (center) is presented his award by Dr. George Mehaffy, AASCU Vice President (right), and UMD Chancellor Lendley Black (left).

Vince added expertise in inorganic chemistry and x-ray crystallography when he joined the department in 1968. For the next twenty-seven years, he taught over 5000 general chemistry students. Vince was appointed Vice Chancellor for Academic Administration in 1995 and served with distinction for sixteen years. His tenure as VCAA was marked by growth in student enrollment, faculty and staff appointments, undergraduate programs, graduate education, and innovations in civic engagement, international education, and student support services.



## Honors Program

The departmental Honors Program provides an opportunity for outstanding Chemistry or BMB majors (3.25, or greater GPA) to enhance their ability to function as independent and competent research scientists. After a formal application and admission process, the students are guided towards choosing a mentor and beginning an undergraduate research program consisting of at least two semesters (or the equivalent). Currently, the program has about 14 members from each of the sophomore, junior and senior classes. The average GPA for the honors membership is 3.7

The results of their research are presented during the Casmir Illenda Undergraduate Research Program at the annual spring semester Senior Symposium. Members of the Honors Program also meet with visiting seminar speakers, participate in a spring luncheon where new members are introduced and are recognized on their final grade transcripts as having graduated with "Department Honors".

The academic achievement and leadership skills of this group of students have made them excellent representatives of the best our program offers.

# FACULTY & STAFF UPDATES

There have been a number of changes in the department in the past year....

## Fond Farewells To:

**Debbie Rose**, Executive Secretary, left the department in January 2012 after 12 years. She accepted a promotion to Associate Administrator in the UMD Department of Writing Studies.

**Linde Eckstrom**, Principal Office and Administrative Specialist, retired in October 2011. Linde plans on spending much of her time in her garden with her beloved cat, Gus.



**Josef Werne**, Professor, resigned in July 2012. Joe accepted a position as an Associate Professor of Biogeochemistry in the Department of Geology and Planetary Science at the University of Pittsburgh. While he's enjoyed the past ten years at UMD, the opportunity for this position was very good, and he couldn't pass it up. He anticipates continued collaborations with several of the faculty at UMD, including those from Chemistry & Biochemistry, Geological Sciences, Biology, and the Large Lakes Observatory.

## Promotions:

**Dawna Carlberg**, Principal Office and Administrative Specialist, accepted a promotion in February 2012 to Executive Secretary in the department.

## Welcome To:



**Sarah E.J. Bowman**, Assistant Professor, will join the faculty in Fall 2012. Sarah received a Bachelor's degree in English Literature and Women's Studies (Cornell College) and a BS in Chemistry (Metropolitan State College of Denver). Sarah completed an MS and PhD in chemistry from the University of Rochester and is currently a postdoc at MIT. Her research experience has focused on the fascinating area of the chemistry of metals in biological systems. The overarching goal in Dr. Bowman's future research plan at UMD is the investigation of proteins that participate in iron homeostasis in pathogenic bacteria by using spectroscopic, computational, and structural and molecular biology techniques.



**Romesh Lakhan**, Instructor, joined the faculty in the Fall of 2011. Originally from Duluth, Romesh completed his undergraduate degrees in Biology, Life Science Education, & Chemistry at the College of St. Scholastica in 1993. He also earned Life Science and Chemistry teaching licensures from the Minnesota Department of Education and started teaching high school Anatomy & Physiology, Biology, and Chemistry. Having a desire to bring "real world" lessons into his classroom, Romesh became an American Heart Association CPR instructor and a certified Emergency Medical Technician. This passion for learning helped Romesh secure a Mayo Summer Research Fellowship in the Lennon-Lambert neuroimmunology laboratory in 1996 where he studied p53 gene expression and its relation to cancer. Romesh continued his relationship with the Mayo Clinic by working as a lipid chemist for two years in Rochester MN. From 2000 to 2010 he worked as an industry representative for the pharmaceutical company AstraZeneca LP where he taught the science of pharmacologic therapies to company employees and medical professionals. In 2011, Romesh completed his Masters degree in Chemical Toxicology at UMD and is now teaching General Chemistry and Introduction to General, Organic and Biochemistry.

Romesh's outside interests include being a triathlete, a PADI certified diver, and serving as a liaison to area high school science teachers. These reflect his passion for applying science to the "real world" and having fun (see p. 6).



# FACULTY & STAFF UPDATES, CON'T

---



**Carla Steinbring**, Instructor, joined the faculty in Fall 2011. She is originally from Champlin, MN and earned a B.A. in Chemistry and Secondary Education from the University of Minnesota Morris. As an undergraduate, she completed undergraduate research at the University of Minnesota Morris and University of Southern California, and also held an internship with Bayer CropScience in Germany. In 2010, Carla earned an M.S. in Chemistry with a minor in Water Resources Sciences from UMD in the laboratory of Dr. Elizabeth Minor focusing on aqueous geochemistry. In addition to teaching general chemistry and general chemistry labs, Carla is currently collaborating with the Center for Sustainable Polymers on the Twin Cities campus to develop labs on renewable, biodegradable green polymers for use in the high school classroom.

Carla enjoys many outdoor activities in the Duluth area and will marry her fiancé, Tyler Ahrenstorff, in August of 2012.



**Erika Bladh**, Instructor, joined the faculty in Fall 2011. She is originally from Andover, MN and earned a B.S. in Biochemistry and Molecular Biology from UMD. Erika remained at UMD to complete her M.S. in Chemistry in 2011, where she studied bioinorganic chemistry in Dr. Steve Berry's Laboratory. This year, Erika is designing new biologically-relevant experiments for the physical chemistry laboratory and working with Dr. Anne Hinderliter to develop the new physical biochemistry laboratory. Erika is also teaching the lecture and labs for the *Introduction to General, Organic and Biochemistry and Aspects of Chemistry* where she is focusing on designing more group work activities.



**Carrie Misuraco**, Principal Office and Administrative Specialist, joined the staff in January 2012. Carrie previously worked at UMD in Auxiliary Services and UMD Stores. Over the past four years, Carrie has enjoyed being a stay at home Mom and working part-time at the St. Cloud Hospital.

When Carrie is not busy chasing around her four year old son, Nicholas, she enjoys 4-wheeling, snowmobiling, playing softball, camping, walking the dog, and watching sports with her husband, Robert.



**Jill Custer**, Principal Office and Administrative Specialist joined the department in April 2012. A native of Howard Lake, MN, Jill completed a B.A. in English in December 2011. Before joining the department, she worked at UMD's Historic House Museum, Glensheen Mansion, for over three years.

In her spare time, Jill enjoys going to movies, having campfires, or just exploring all the things Duluth has to offer.

## Administrative Leadership

The department has provided more than its share of administrative leadership to the department, college, and campus.



At the end of July 2011, Vince Magnuson completed 16 years as Vice Chancellor for Academic Administration. The department is fortunate to have Vince back in the department.



In September 2011, Paul Kiprof was selected as the Interim Associate Dean of the Swenson College of Science and Engineering. Paul's service in the College led to Viktor Zhdankin's election as the Interim Department Head.



Bilin Tsai served as Interim Associate VCAA for two years and then as Interim Executive Vice Chancellor for Academic Affairs during fall semester 2011 before returning to the department in January 2012.



Finally, Dean Jim Riehl was on leave during 2011-2012 to conduct a comparative study of science education in several countries including France, Britain, India, China, and Turkey. He will publish his work in a forthcoming book.

## New Course and Program Development

This past year, the faculty has developed some very exciting and innovative courses and programs to make sure our curriculum is current, recognizes the dynamic and interdisciplinary nature of science, and provides effective laboratory training. These efforts are broadly focused on supporting high school chemistry instruction, enriching the new UMD Liberal Education program, strengthening the general chemistry laboratory, and expanding graduate program options.

### High School Chemistry Curriculum

- Carla Steinbring is currently collaborating with the Center for Sustainable Polymers on the Twin Cities campus to develop labs on renewable, biodegradable green polymers for use in the high school classroom.
- Romesh Lakhan and Carl Sandness, Chemistry graduate alum and Hibbing High School chemistry teacher, created a hands-on high school chemistry lab on how pressure affects the body. Yan Saillard, owner of Innerspace Scuba, was also involved in the demonstration. This work was supported in part by grant funding obtained by Romesh for outreach activities with area high schools.



### Undergraduate Curriculum

- Brian Gute received several grants to improve the general chemistry laboratory program. These projects include revising the general chemistry laboratory manual, converting it to an electronic format, developing demonstration kits for faculty, and creating tutorial videos on laboratory techniques.
- In addition, Brian received an MPCA green chemistry curriculum development grant to develop a new course, *Introduction to Green Chemistry*, and to add new green chemistry labs to existing courses. The Green Chemistry course will be submitted to meet the Sustainability theme in the new Liberal Education Program.
- The department submitted several other chemistry courses for the Natural Science category in the new Liberal Education Program.
- Erika Bladholm is working on incorporating more biologically relevant experiments into the BMB major's physical chemistry laboratory including an experiment focusing on the diffusion controlled kinetics of a metabolic enzyme. In addition, she is working with Anne Hinderliter to develop the new physical biochemistry laboratory.

### Graduate Curriculum

- Several faculty members in the department are members of the Integrated Biosciences graduate program. Anne Hinderliter and Ahmed Heikal were particularly instrumental in developing a new M.S. and Ph.D. emphasis in Chemical Biology. Students will be admitted to this new program this fall.

## SCIENTIFIC DISCOVERY

Our faculty continues to expand the boundaries of knowledge in both disciplinary and interdisciplinary areas resulting in a very successful and impressive year of publications, presentations, and grant awards. Our commitment to preparing the next generation of scientists, educators, and health care professionals for 21<sup>st</sup> century challenges is reflected, in part, by the growing number of undergraduate and graduate students working on research projects. In addition, the breadth of research in the department, the emergence of new collaborations, and the exciting applications that result from this research are indicators of a highly research-rich and productive department.

In 2011, successful research projects resulted in over 70 publications and 50 presentations at conferences and symposia around the world. In addition, faculty members wrote successful grant proposals leading to awards from a variety of funding agencies totaling \$4.7 million. These include the National Science Foundation, National Institutes of Health, American Chemical Society- Petroleum Research Foundation, International Continental Drilling Program, Minnesota Sea Grant, and Minnesota Pollution Control Agency. The awards provide critical funds for research instrumentation, equipment, chemicals and biochemicals, chemical analyses, computer time, research ship time, and support for undergraduate, graduate, and post-doctoral students.

### Discovery Knows no Borders

Faculty members presented their research findings at several international conferences, received many invitations from scientists in other countries to present seminars, and maintained collaborations with colleagues all over the world.

In August 2011, **Steve Berry** and three student co-authors presented a poster at the 14<sup>th</sup> International Conference of Bioinorganic Chemistry (ICBIC15), Vancouver, British Columbia.

**Ahmed Heikal** presented his work at two international conferences in September 2011: 17th International Workshop on Single Molecule Spectroscopy and Ultra Sensitive Analysis in the Life Sciences, Berlin, Germany and at the 12th Conference on Methods and Applications of Fluorescence (MAF-12), Strasbourg, France.

**Elizabeth Minor** presented a poster at the 25th International Meeting on Organic Geochemistry in Interlaken, Switzerland. While she was there, she traveled to Zurich to present a seminar at ETH-Zurich (Swiss Federal Institute of Technology). In January 2012, Liz made her first trip to Lake Malawi in East Africa to collect samples for the first ever water column radiocarbon samples for carbon concentrations and cycling information.



**Joe Werne** also attended the 25th International Meeting on Organic Geochemistry in Interlaken, Switzerland and continues his studies of biomarker samples from Lake Malawi. With collaborators from Mexico, Germany, and Spain, Joe hosted a workshop on scientific drilling of Lake Chalco, Mexico in March 2012. This workshop is funded by the International Continental Drilling Program (ICDP).

In June 2011, **Viktor Zhdankin** presented seminars at Tomsk Polytechnic University, Tomsk, Russia; Novosibirsk Institute of Organic Chemistry, Novosibirsk, Russia; University of Tartu, Tartu, Estonia; and Tallinn Technical University, Tallinn, Estonia.

### Postdoctoral Fellows and Visiting Scientists

This academic year, the Department is hosting many fine postdoctoral fellows and visiting scientists from around the world. In addition to furthering their education, they provide scientific expertise to their research labs and mentor our undergraduate and graduate students.

Recent visitors to the department include:

- summer undergraduate research students **Duygu Aydin-Tekdas** (Turkey), **Andrea Vecchi** (Italy), and **Monica Soto Velasquez** (Colombia)
- visiting professors **Dr. Cumali Celik** (Turkey), **Dr. Chenjie Zhu** (China), **Dr. Rodion Belosludov** (Japan) and **Dr. Mekhman Yusubov** (Russia)
- visiting research associates **Dr. Bahadir Keskin** (Turkey), **Jun Ma** (China) and **Sergio Contreras Quintana** (Chile).
- postdoctoral research associates **Dr. Pavlo Solntsev** (Ukraine) and **Dr. Akira Yoshimura** (Japan)
- scientist **Mohammad Alam** (India).



## SCSE Academy of Science & Engineering

The Academy of Science and Engineering was established in 2002 to recognize alumni and special friends of the Swenson College of Science and Engineering who have distinguished themselves through their participation, commitment, and leadership in their chosen professions. The annual induction ceremonies are held each year during the fall semester. Our 2011 Academy Inductee is...

### Mr. Samuel J. Beard, BA Chemistry, 1952



*Mr. Samuel Beard*

Sam was born in Washburn, MN but moved to Duluth in 9th grade to attend Duluth Central High School. After graduating from Central, he completed a Bachelor of Arts degree at UMD in 1952 with a chemistry major and mathematics minor. In 1954, he completed a Bachelor of Science degree in chemical engineering at the University of Washington. In addition, Sam attended the Massachusetts Institute of Technology as a 1968-69 Alfred P. Sloan Fellow and completed a Master of Science degree in management in 1969.

In 1969, the Exxon Corporation entered the nuclear energy field with a new affiliate named Exxon Nuclear Company, Inc. Sam joined this affiliate in 1971 as the Manager of Fuel Reprocessing Engineering. He was responsible for leading Exxon Nuclear's initiatives in the commercial reprocessing of discharged nuclear power plant fuel. In 1978, he became the General Manager of Exxon's Laser Enrichment Program which focused on developing a dye laser process for producing enriched uranium. Three years later, he was named Vice President of Engineering and Technology and was elected to the Board of Directors. In 1986, Sam was named President, Chairman of the Board, and Chief Executive Officer of Exxon Nuclear Company. When he retired in 1988, the American Institute of Chemical Engineers recognized Sam's achievements in Nuclear Chemical Engineering by selecting him as the 1988 recipient of the Robert E. Wilson Award.

## Departmental Review

Professors Angela Wilson of the University of North Texas, John Protasiewicz of Case Western Reserve University, and Barry Lentz of the University of North Carolina were invited to serve as the external review team for the academic program review of the department. They visited campus in December 2011 to have a close look at the Department's undergraduate and graduate programs. They met with students, faculty, staff and administrators and toured the department's offices, laboratories, lab support areas, and classrooms. The Department is grateful for their thoughtful recommendations for strengthening our programs, exploring interdisciplinary opportunities, improving the curriculum, and expanding our educational and research impact. Their observations and analyses will help shape our new strategic plan.

We are particularly grateful to Professors John Evans and Paul Siders who prepared the Self-Study and arranged the reviewers' visit.

## Alumni Spotlight: MINH C. NGUYEN



Minh Nguyen

Minh C. Nguyen completed a B.S. Chemistry in 1999 and an M.S. in Chemistry in 2000. He is a senior forensic chemist in the Western Laboratory (San Francisco) of the U.S. Drug Enforcement Agency (DEA). On November 4, Minh presented a seminar in the department on *A Forensic Chemist's Career with Drug Enforcement Administration*. He graciously agreed to an interview with Professor Bilin Tsai.

**Bilin Tsai (BT):** Describe your current job and how long you have been with the DEA.

**Minh C. Nguyen (MCN):** I've been working for the Drug Enforcement Administration in the San Francisco drug laboratory for almost ten years. I started as a forensic chemist in October 2002 and am currently a senior forensic chemist. When I was first hired at the DEA, my primary duty was to perform chemical analyses on samples to determine if a controlled substance was present. I used a variety of instruments to identify the chemical components in each sample and prepared an extensive report documenting the results for law enforcement officers and prosecutors. Frequently, I was and continue to serve as an expert witness for the government, meaning that I testify in court and present the scientific results of the chemical tests.

For over seven years, I have made numerous trips to Vietnam, my native country. Some of these trips were humanitarian in nature. For example, I served as a language translator, trip organizer, and assistant in providing US medical supplies to a medical clinic and orphanage in Hue City as part of the relief efforts by Mission El Mundo, a non-profit organization based in Minneapolis, Minnesota. In January 2007, I assisted with humanitarian relief efforts in the form of providing food, financial aid, and housing assistance to villagers in Binh Dai, Ben Tre province, which was devastated by a sudden hurricane. On that trip, I made arrangements with a local food vendor to package and deliver food to the village as well as coordinated with the head of the village on food distribution. More recently, I was assigned to work with the National Forensic Laboratory in Hanoi to upgrade their instrument inventory and expand their training program. I provided scientific instrumentation training on analytical instruments donated by DEA through the DEA Vietnam Country Office.

**BT:** How did your undergraduate and graduate education help you achieve your current position?

**MCN:** My interest in chemistry started in high school and I declared a chemistry major when I came to UMD. After I graduated from UMD with a bachelor's and master's degree in chemistry, my first job was as a laboratory chemist at Medtox Laboratory in New Brighton, Minnesota. After September 11, 2001, the economy deteriorated and I started looking at opportunities in the federal government. I was subsequently hired by the DEA in October 2002.

My chemistry program at UMD included many laboratory courses in which I learned good lab techniques and proficiency on many instruments I later used at the DEA including a gas chromatograph, mass spectrometer, nuclear magnetic resonance spectrometer, liquid chromatograph, and chemical electrophoresis. In addition, the solid education in chemistry and math that I received provided me with the necessary confidence to work successfully as a forensic chemist. In particular, my UMD courses in quantitative analysis and instrumental analysis have been very applicable to my present job. I recall with special fondness the organic chemistry lectures by Professors Caple, Robert Carlson and Viktor Zhdankin as being the best. Physical chemistry is never the easiest subject to understand but Professor Paul Siders made the lectures more enjoyable. Finally, my research experience in Professor Ronald Caple's research lab helped me become a much better chemist, team member, researcher, and communicator in writing and speaking. He continues to be an excellent mentor and friend.

**BT:** How did you come to UMD?

**MCN:** I was born in Vietnam. At different times after the Vietnam War, members of my family were able to escape Vietnam. My older brother and older sister came to Duluth as refugees in the 1980's. They were both minors and were adopted by the Gloria Dei Lutheran Church. In March 1992, I arrived in the Twin Cities and, during my first month in the U.S., I was introduced to UMD through my older brother who graduated from there with undergraduate and graduate degrees. My parents believed in education and instilled in us that we would all have to get a college degree so that we could find good jobs.

While I was in high school in the Twin Cities, I visited my older brother in Duluth and found the city and UMD very attractive to me. I was very fortunate that a retired school teacher who sponsored both of my older siblings was willing to assist me with learning English. In Fall 1995, three years after I arrived in the U.S., I started college at UMD.

## Alumni Spotlight: Minh C. Nguyen (continued from page 9)

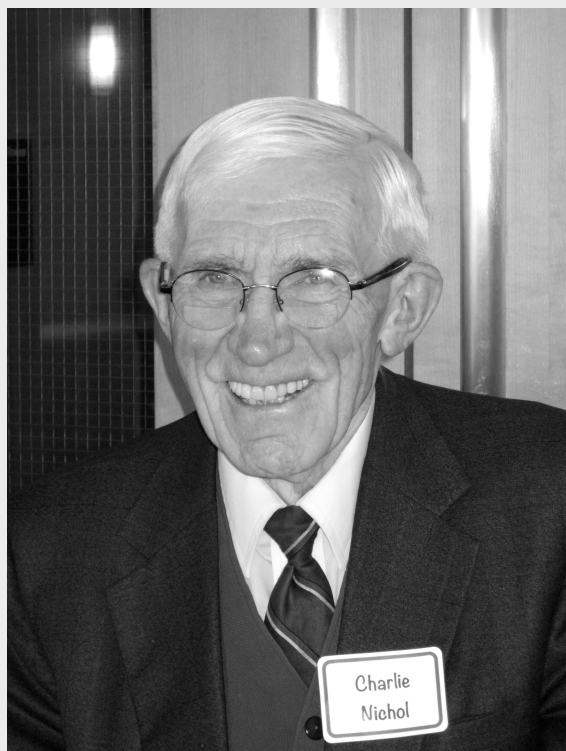
**BT:** Do you have any fond memories from your undergraduate and graduate years?

**MCN:** I have many fond memories of fishing for lake trout on Gunflint Lake with Professor Caple – both in the summer at the conclusion of the UMD Summer Undergraduate Research Program and in the winter to ice fish. Dr. Caple's research group was a close and supportive community for me. I met many students from the U.S. and from around the world in addition to learning a lot of organic chemistry.

Because I was still learning English when I started at UMD, I struggled at times. But in addition to my chemistry professors, I will always be grateful to the kind and helpful staff members in the department (David Marklund, Joanne Ellis and Debbie Rose), the Swenson College of Science and Engineering (Janny Walker and Lorraine Carlson) and Professor Tom Duff in the School of Business and Economics. The UMD campus environment provided me with a warm heart feeling which has remained with me. The kindnesses I received at UMD shaped my desire to give back to the less fortunate people in Vietnam.



## Professor Emeritus J. C. "Charlie" Nichol Celebrates 90<sup>th</sup> Birthday!



In April 2012, members of the department, campus, and community celebrated Professor Emeritus Nichol's 90<sup>th</sup> birthday as well as his 55<sup>th</sup> year since he started as a member of the UMD chemistry faculty. 2012 is also the 20<sup>th</sup> year of his retirement although he rarely misses Friday seminar, the annual undergraduate symposium, SCSE Academy dinner, and other special programs.

In the classroom, Charlie held high standards matched by his deep commitment to students. In the research lab, he was an encouraging and enthusiastic mentor. Under his leadership, the foundation for graduate education was established and still serves as the basis for strong graduate programs today. This year, birthday greetings from former students and colleagues attest that Professor J.C. Nichol is held with great affection and respect by his students, faculty colleagues, and friends.

***Happy Birthday Charlie!***



## Undergraduate Research Program

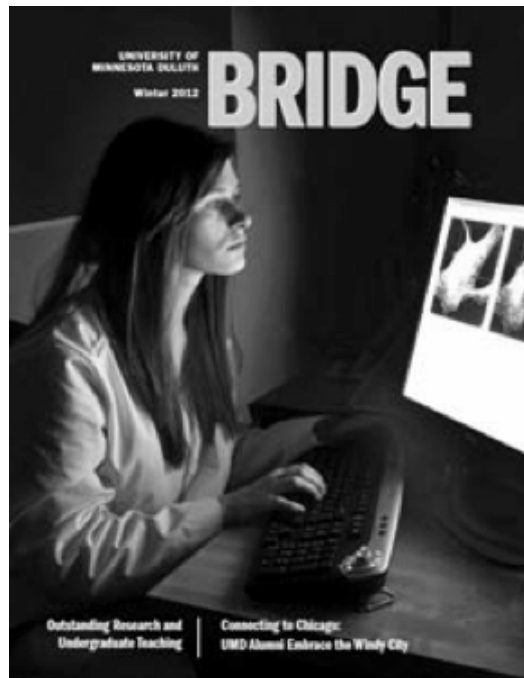
For more than sixty years, the Department of Chemistry and Biochemistry has been a recognized leader in delivering a strong program in undergraduate research. The impact of this program on the educational achievement of our students closely aligns with the new UMD Strategic Plan: reinforce and enhance classroom learning, increase and improve experimental, analytical, and quantitative skills, engage students in the discovery of new knowledge and methods, develop collaborative and team building skills, and strengthen oral and written communication skills. We know that many of you participated in undergraduate research when you were a student at UMD and that what you learned as an undergraduate researcher were transferrable skills that have contributed to your professional lives and promoted lifelong learning.

The **UMD Undergraduate Research Opportunities Program (UROP)**, for example, offers competitive financial awards twice a year for undergraduate students to carry out research or participate in scholarly or creative projects in partnership with a faculty mentor. In 2011, 38 undergraduate students from our department were granted UROP awards. Because dissemination of their research is a vital element of discovery, students frequently present at regional and national conferences, the UMD spring Undergraduate Research and Artistry Showcase, (*Jillian Bartusek, Biochemistry major, was featured on the cover of spring-2012 issue of the Bridge Alumni Magazine*).

Our department also offers a **Summer Undergraduate Research Program (SURP)**, which enables our undergraduates to conduct full-time research each summer. Students are supported by the Swenson Family Foundation (SFF) Summer Research awards, UROP awards, and faculty research grants.

In the summer of 2011, for example, 29 full-time students (picture) were supported by these awards. They presented their research findings in the SURP Poster Symposium (August 12, 2011), which was attended by faculty, students, and UMD administrators. Dignitaries such as Mayor Don Ness of Duluth and Minnesota State Senator David Tomassoni also attended the symposium.

In addition to the SURP and UROP programs, our undergraduates may register for research credits (Chem 3194: Undergraduate Research) during the semester. At the end of each semester, the students complete a research paper summarizing their findings.



# Graduating Seniors: 2010 - 2012



## 2010/2011

Jeremy Anderson, BS BMB/BA-Chem \*  
 Rebecca Anderson, BS BMB/BA-Chem \*  
 Nathan Bahr, BS-BMB/BS-Chem  
 Manuel Bangsil, BS-BMB  
 Caitlin Barnaby, BS-BMB/BS-Chem  
 Brittany Benson, BS BMB/BA-Chem  
 Jeremy Bosquez, BS-Chem  
 Lucas Busta, BS-BMB/BS-Chem \* **Cum Laude**  
 Sarah Bye, BS-BMB  
 Jared Carpenter, BS BMB/BA-Chem \*  
 Timothy Casey, BS-BMB  
 Brita Dahlquist, BA-Chem \* **Cum Laude**  
 Joseph Dekan, BS-Chem  
 Richard Dennison, BS-Chem  
 Christina Douglass, BS-BMB  
 Ashley Fearnall, BS-BMB  
 Jason Featherstone, BS-Chem  
 Brandy Forsman, BS-Chem  
 Katherine Haas, BS BMB/BA-Chem  
 Whitney Hines, BS BMB/BA-Chem \*

### **Magna Cum Laude**

Melanie Jokinen, BS-Chem  
 Allen Kniép, BA-Chem \*  
 Ray Kuschel, BS-BMB  
 Teresa Lesch, BS-BMB/BS-Chem  
 Andrew McCabe, BS BMB/BA-Chem \*

### **Summa Cum Laude**

Kyle Middleton, BS-Chem  
 Richard Mika, BS-Chem  
 Eli Narveson, BS-BMB/BS-Chem  
 Benjamin Neisen, BS-BMB/BS-Chem \*  
 Matthew Porter, BS-Chem  
 Gregory Reynolds, BS-BMB/BS-Chem \*

### **Cum Laude**

Sara Revere, BA-Chem

Anne Rice, BS BMB/BA-Chem \*

### **Summa Cum Laude**

Morgan Roberts, BS-Chem  
 Ryan Sisk, BS-BMB/BS-Chem  
 Adam Snow, BS-BMB  
 Christopher Sorensen, BS-BMB  
 Peter Steltz, BS-BMB/BS-Chem  
 Jacob Strange, BS-Chem  
 Andrew Tufte, BS-Chem  
 Casey Van Stappen, BS-Chem \* **Cum Laude**  
 Robb Welty, BS-BMB/BS-Chem  
 Allison Winkler, BA-Chem  
 Michael Woods, BS-Chem  
 Bradley Yell, BS-Chem

## 2011/2012

John Alfveby, BS-BMB \*  
 Evan Anderson, BS-BMB/BS-Chem \*

### **Summa Cum Laude**

Wade Baribeau, BS-BMB/BS-Chem  
 Jillian Bartusek, BS-BMB  
 Nathan Buermann, BS-BMB/BS-Chem \*  
 Linda Cherwon, BS-BMB  
 Sarah Farley, BS-Chem  
 Heather Freeberg, BS-BMB/BA-Chem  
 Matt Gilson, BS-Chem  
 Logan Gylten, BS-BMB  
 Amy Hanson, BS-BMB \* **Cum Laude**  
 Trent Hanson, BS-BMB/BS-Chem \* **Cum Laude**  
 Nicholas Hess, BS-BMB  
 Kelsea Ingebretsen, BS-BMB/BA-Chem \*  
 Dan Jabs, BS-BMB **Magna Cum Laude**  
 Heathere Jacobson, BS-BMB/BA-Chem  
 Michael Kapsner, BS-BMB  
 Adrian Kipp, BS-Chem  
 John Knebel, BS-BMB  
 Anders Knutsen, BS-Chem

Leanna Kochendorfer, BS-BMB/BS-Biology  
 Steven Koski, BS-Chem  
 Bjorn Krause, BS-BMB  
 Katie Kurtz, BS-BMB/BA-Chem  
 Sze Leung, BS-BMB  
 Nathan Levendoski, BS-BMB/BA-Writ  
 Stephani Lipps, BS-BMB/BS-Chem/BS-Cell Biol \*  
 XueHong 'Keira' Liu, BS-BMB/BS-Chem \*  
 Sarah Lojovich, BS-BMB  
 Ryan Mahling, BS-BMB  
 Joseph Marvin, BS-BMB  
 Jordan Meyers, BS-BMB  
 Amber Nelson, BS-Chem  
 Rebecca Nelson, BS-Chem  
 Thu An Nguyen, BS-BMB  
 Ivanna Oribamise, BS-BMB  
 Katherine Peterson, BS-Chem  
 Anika Rannikko, BS-BMB/BA-Chem  
 Jillian Raymond, BS-Chem  
 Amy Redfield, BS-BMB \* **Magna Cum Laude**  
 Benjamin Riley, BS-BMB  
 Carrissa Roline, BS-BMB  
 Maisie Secora, BS-BMB \*  
 Kristina Siats, BS-Chem  
 Jacob Stevens, BS-BMB/BA-Chem/BS-Cell Biol \*  
 Faith Thompson, BS-BMB/BS-Chem  
 Jed Tuthill, BS-BMB  
 Bradley Waldorf, BS-BMB/BS-Biol  
 Rochelle Warner, BS-BMB/BS-Chem \*  
 William Weyandt, BS-BMB  
 Michael Williams, BS-BMB \*  
 Jordan Zauner, BS-Chem  
 Cheryl Zehowski, BS-BMB/BS-Chem  
 Chuhan Zong, BS-BMB/BS-Chem \*

### **Summa Cum Laude**

\* **With Distinction (Departmental Honors)**

# Masters of Science in Chemistry Program Graduates: 2010 - 2012

The Master of Science in Chemistry degree program at UMD provides an excellent opportunity to acquire and develop technical expertise and problem-solving skills expected of today's chemical and biochemical professional. Coursework is designed to provide a firm fundamental basis for students going into a variety of chemical specialties in both professional and academic settings. Following is a list of students who have completed their Master's degree over the last two years:

## 2010/11

## Post-graduation Plans

Erika Bladholm	Instructor, University of Minnesota Duluth
Ryan Connell	University of St. Thomas, School of Law
Samantha Dammer	Employment, Van Technologies, Duluth, MN
Jacob Gauer	University of North Carolina, Biophysics Ph.D. Program
Nicholas Haukom	Apply to Medical School
Matthew Luedtke	Employment, Tundra Companies, White Bear Lake, MN
Chikako Onishi	South Dakota State University, Chemistry Ph.D. Program
Christian Toonstra	University of Maryland Baltimore County, Chemistry Ph.D. Program
Ashli Tucker	Employment, Hennepin County Medical Center, Minneapolis, MN
Dhanushka Wickramasinghe	
Cong Zhang	University of Florida Gainesville, Geological Sciences Ph.D. Program

## 2011/12

Derrick Anderson	Employment, EcoLab, Eagan, MN
Christopher Bicknese	Employment, Duluth, MN
Nik Czerniecki	Pursue a Ph.D. degree
Michael Fealey	Employment in Medical Research
Sarah Geppert	Pursue Ph.D. degree or career in Chemistry
Margarita Geraskina	Iowa State University, Chemistry Ph.D. Program
Wil Goetsch	Employment, Minntech Corporation, Maple Grove, MN
Chase Gomez	Employment, InterVarsity Christian Fellowship
Samantha Jaworski	Pursue a Ph.D. degree
Emily Kalinowski	Employment, Minneapolis, MN
Melanie Ladd	Instructor, University of Wisconsin Superior, Superior, WI
Megan Macdonald	Employment, Coating Place, Inc, Verona, WI
Katelynn Spurgin	Employment, Minneapolis, MN
Paul Steffen	Employment, WRR Environmental Services, Eau Claire, WI
Peggy Walsh	Employment



# STUDENT AWARDS

Our department is fortunate to have many ways available to recognize our outstanding and deserving students. Former students, faculty and friends of the department established some of these awards; others are from organizations in the field. Award details can be viewed at <http://www.d.umn.edu/chem/undergrad/awards.html> and <http://www.d.umn.edu/chem/grad/awards.html>

## Swenson Family Foundation Scholarships for Academic Excellence

**2010/11:** Evelyn Grafton, Troy Hendrickson, Jacob McPherson, Vlad Popescu, Charles Sieberg, Tyler Stevens, James Strasburg, Emmalee Toldo, Trent Hanson, Jeremy Anderson  
**2011/12:** Maren Bakke, Valerie Bruner, Nicole Fairbanks, Teresa Heck, Kevin Hughes, Nathan Karp, Stephanie Schramel, Erik Stolle

## Achievement in Organic Chemistry (ACS) Award

**2010/11:** Erik Carlson  
**2011/12:** Jenna Peterson

## HyperCube Scholar Award

**2010/11:** Casey Van Stappen  
**2011/12:** Hannah Tauscher

## Peterson Memorial Scholarship

**2010/11:** Michael Williams  
**2011/12:** Heathere Jacobson

## Lake Superior Section of ACS Outstanding Senior

**2010/11:** Ryan Sisk, Evan Anderson  
**2011/12:** Evan Anderson, Chuhan Zong

## The American Institute of Chemists Outstanding Senior

**2010/11:** Sarah Bye  
**2011/12:** Trent Hanson

## F. B. Moore Academic and Leadership Award

**2010/11:** Lucas Busta  
**2011/12:** Chuhan Zong

## CRC Freshman Award for Excellence in General Chemistry

**2010/11:** Robert Wallant, Evelyn Grafton, Karissa Vosen, Tanner Solheim  
**2011/12:** Teresa Heck, Nathan Lentsch, Gantian Lu, Joan Madison

## James H Maguire Scholarship

**2010/11:** Evan Anderson, Amy Redfield, Xuehong 'Keira' Liu, Chuhan Zong, Jared Sabin  
**2011/12:** Josh Bruhn, Tong Ding, Jared Sabin

## Undergraduate Analytical Chemistry Award

**2010/11:** Samantha Spaeth  
**2011/12:** Ryan Lusk

## Robert Bayer Memorial Scholarship

**2010/11:** Andrew McCabe  
**2011/12:** Logan Pirkel

## Norm and Joan Gill Scholarship

**2010/11, 2010/12:** Dana Roach

## Larry C. Thompson Inorganic Chemistry Award

**2010/11:** Gregory Reynolds  
**2011/12:** Evan Anderson

## Casmir Ilenda Award for Outstanding Undergraduate Research

**2010/11:** Rebecca Anderson, Lucas Busta  
**2011/12:** Evan Anderson, XueHong 'Keira' Liu, Michael Williams

## Dr. Nathan and Elaine Ballou Scholarship

**2010/11:** Janae Anderson  
**2011/12:** Travis Fransen, Gutama Hamza, XiaoMeng Sun

## Ronnie Lindstrom International Student Scholarship

**2010/11, 2011/2012:** Thu An Nguyen

## Catherine E. Cox Scholarship for Chemistry and Biochemistry

**2010/11:** Taylor Jacobson, Ryan Lusk, Sheewinn Pananookooln, Elaine Terry

## Departmental Honors

**2010/11:** Jeremy Anderson, Rebecca Anderson, Lucas Busta, Allen Kniep, Andrew McCabe, Ben Neisen, Gregory Reynolds, Anne Rice, Casey Van Stappen  
**2011/12:** John Alfveby, Evan Anderson, Amy Hanson, Trent Hanson, Stephani Lipps, XueHong 'Keira' Liu, Amy Redfield, Ben Riley, Jacob Stevens, Rochelle Warner, Michael Williams, Chuhan Zong

## Departmental Outstanding Service Award

**2010/11:** Evan Anderson, Ryan Sisk, Michael Woods

## University Honors

**2011/12:** Amy Redfield, Maisie Secora

# STUDENT AWARDS, CONTINUED

## Chemistry and Biochemistry Outstanding Undergraduate Teaching Assistant

2010/11: Jeremy Anderson, Lucas Busta, Ben Neisen, Gregory Reynolds, Anne Rice

2011/12: Matthew Donoghue, Trent Hanson, Leanna Kochendorfer, Zachary Lundstrom, Hayley Retaskie, Faith Thompson, Tony Wertish, Chuhan Zong

## John C. Cothran Memorial Fellowship

2010/11: Erika Bladholm, Blake Chapman, Jacob Gauer, Christian Toonstra, Ashli Tucker, Dhanushka Wickramasinghe

2011/12: Derrick Anderson, Margarita Geraskina, Shirisha Gurrapu, Nicole Heinks, Melanie Ladd

## Moses Passer Graduate Fellowship

2010/11: Derrick Anderson, Chris Bicknese, Ryan Connell, Chase Gomez, Matt Luedkte, Andrey Maskae

2011/12: Michael Fealey, Chase Gomez, Samantha Jaworski

## UMD Siders Chemistry Graduate Fellowship

2010/11: Shirisha Gurrapu, Melanie Halverson

2011/12: Andrey Maskae

## SCSE Outstanding Graduate Teaching Assistant

2010/11: Erika Bladholm, Samantha Dammer, Matthew Luedtke

2011/12: Chris Bicknese, Samantha Jaworski, Katelynn Spurgin

## Chemistry and Biochemistry Outstanding Graduate Teaching Assistant

2010/11: Chris Bicknese, Ryan Connell, Christian Toonstra, Ashli Tucker

2011/12: Derrick Anderson, Melanie Ladd

### Congratulations!

**Jared Sabin**, a UMD junior from Hibbing Minnesota, received an American Chemical Society Certificate of Recognition and monetary award for his research poster *Synthesis, electronic structure, and properties of organometallic indium porphyrins* presented at the Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society in St. Louis, MO (October 2011). Jared is a B.S. Chemistry and Physics double major and will graduate in Spring 2013. His research advisor is Professor Victor Nemykin. Jared started his undergraduate research during his sophomore year and is a co-author on five peer-reviewed research publications appearing in highly selective research journals.



Department of Chemistry and Biochemistry  
University of Minnesota Duluth  
1039 University Drive  
Duluth, MN 55812-2496  
e-mail: [umdchem@d.umn.edu](mailto:umdchem@d.umn.edu)  
<http://www.d.umn.edu/chem>

Non-Profit Org  
US Postage Paid  
Duluth, MN  
Permit No. 705



**Swenson College**  
OF SCIENCE AND ENGINEERING

Department of Chemistry  
and Biochemistry